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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/625,710	07/25/2000	Alfred E. Keller	1856-00301	6545

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EXAMINER
RUDNICK, DOUGLAS W

ART UNIT	PAPER NUMBER
1764	4

DATE MAILED: 02/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-4

Office Action Summary	Application No. 09/625,710	Applicant(s) KELLER, ALFRED E.
	Examiner Douglas W Rudnick	Art Unit 1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) 1-7 and 17-20 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 8-16 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a)☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 .
4)☐ Interview Summary (PTO-413) Paper No(s). _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: .

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

   I. Claims 1-7 and 17-20, drawn to a method, classified in class 252, subclass 373+.

   II. Claims 8-16, drawn to an apparatus, classified in class 422, subclass 129+.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I. and II. are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus as claimed can be used for another and materially different process, such as a process for the purification of the exhaust gas from an internal combustion engine.

3. During a telephone conversation with Ms. Carol Mintz on August 2, 2001, a provisional election was made with traverse to prosecute the invention of the system, claims 8-16. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-7 and 17-20 are withdrawn from further

consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 9-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 9, line 16, since temperature is directed to method limitation, it is unclear as to what structural limitation applicants are attempting to recite. In claim 13, the language of the claim is directed to method limitation, and therefore does not further define any structure of the system.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 8, 9, 11, 12, 14, 15 are rejected under 35 U.S.C. 102(b) as being anticipated by De Jong et al. (US 5720901).

De Jong et al. discloses a system for the partial combustion of hydrocarbons comprising:

With respect to claim 8, A hydrocarbon, a hydrogen sulfide, and an oxygen injection line in communication with each other (col. 5, lines 32-35) and (claim 13, lines 44-49). If they have to be mixed together, it is inherent that they are introduced separately.

A reaction zone (2)

A catalyst (col. 4, lines 1-6)

With respect to claim 9, a mixing zone upstream from the reaction zone (col. 5, lines 32-35)

With respect to claim 11, oxygen line that communicates with the reaction zone (col.7 65-67)

With respect to claim 12, mixing zone that receives oxygen from the oxygen injection line (6, 4)

With respect to claim 14, at least one cooling zone is downstream from the reaction zone (col. 8, lines 4-12)

With respect to claim 15, a tailgas processing unit downstream from the cooling zone (22)

Intended use is of no patentable moments in apparatus claims

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over De Jong et al. in view of Dubois et al. (US 5472920).

De Jong et al. discloses the invention substantially as claimed. However, De Jong et al. is silent to having a thermal barrier between the mixing zone and the reaction zone. Dubois et al. teaches a thermal barrier that can be used between the mixing and reaction zones (col.1, lines 11-14) in a reactor for the purpose of preventing excess heating of certain components that when exceeding acceptable limits have deterioration in their properties. It would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided a thermal barrier between the mixing zone and the reaction zone in De Jong et al. in order to prevent excess heating

of certain components that when exceeding acceptable limits have deterioration in their properties as taught by Dubois et al.

11. Claim 16 rejected under 35 U.S.C. 103(a) as being unpatentable over De Jong et al. in view of Goetsch et al. (US 5654491).

De Jong et al. discloses the invention substantially as claimed. However, De Jong et al. fails to disclose a catalyst supported on wire gauze. Goetsch et al. teaches a catalyst supported by wire gauze (claim 2) for the purpose of maximizing surface area, therefore maximizing reaction sites. It would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided a catalyst supported by wire gauze in order to maximize reaction sites as taught by Goetsch et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas W. Rudnick whose telephone number is 703-305-3141. The examiner can normally be reached on M-F (8:30 am - 5:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marian Knode can be reached on 703-308-4311. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

DWR
Douglas W. Rudnick
Art Unit 1764

dwr
January 31, 2002

Hien Tran

HIEN TRAN
PRIMARY EXAMINER